

PROPOSED NRC-DEVELOPED ADMINISTRATIVE JPMS

WITH FACILITY AND NRC COMMENTS

FOR THE PRAIRIE ISLAND INITIAL EXAMINATION - AUGUST 2002

Facility: Prairie Island

Task No: _____

Task Title: Conduct Control Board
Walkdown for Shift TurnoverJob Performance Measure No: SRO/RO
A.1.aK/A Reference: 2.1.3 [3.0/3.4]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance ☐ Actual Performance ☒ Classroom ☐ Simulator ☒ Plant ☐**READ TO THE EXAMINEE**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Shift Supervisor* *Reactor Operator*
- You are the on-coming Unit 1 ~~SRO/RO~~ *I am the off-going Unit 1 Shift Supervisor (SRO) / Unit 1 Reactor Operator (RO)*
 - You are relieving the watch you were on 12 hours ago
 - ☒ Unit 1 is at ~~90%~~ *100%* power with no testing or other evolutions in progress

Task Standard: *100* IDENTIFY all discrepancies on the Main Control Board.

SRO: EVALUATE any Tech Specs NOT met (if any) and associated actions

RO: DISCUSS any Tech Specs NOT met (if any)

- Required Materials:
1. SRO: Unit 1 Shift Supervisor Turnover Log
 2. RO: Unit 1 LPEO / PEO Turnover Log
 3. Technical Specifications

- General References:
1. SWI O-0, "Conduct of Operations", Attachment 14, Section 3.7.2, Rev 0
 2. SWI O-2, "Shift Organization, Operations & Turnover, Rev 45
 3. SRO: Unit 1 Shift Supervisor Turnover Log
 4. RO: Unit 1 LPEO / PEO Turnover Log
 5. Technical Specifications

Initiating Cues:

- Perform a walkdown of the NSSS portions of the Main Control Boards as required per SWI O-0, "Conduct of Operations", Attachment 14, Section 3.7.2 and the Turnover Log
- ~~- You will be given 20 minutes for the walkdown of the NSSS portions of the Main Control Boards~~ *- IDENTIFY any operational limitations or concerns that you have.*
- ~~- When you are finished we will discuss any discrepancies or problems noted:~~ *- I will write down any operational limitations or concerns that you have identified.*
- ~~- SRO: EVALUATE any Tech Specs NOT met (if any) and associated actions~~
- ~~- RO: DISCUSS any Tech Specs NOT met (if any)~~ *- All lights have been verified to be functional*
- ~~- You are relieving the watch you were on 12 hours ago~~ *- You are NOT allowed to touch the Main Control Boards during the turnover.*
- ~~- Unit 1 is at 90% power with no testing or other evolutions in progress~~

Time Critical Task: YES/NO Alternate Path: YES/NO

Validation Time: _____ Minutes Time Started _____

Time Finished: _____

*Concur. Changes incorporated (enhancements)
M. Allen*

Concur. Changes
incorporated. *g/Valora*

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

1 Performance step: **CRITICAL STEP**

SAT/UNSAT

PERFORM Main Control Board walkdown and **IDENTIFY** all ~~discrepancies or problems~~ on the Main Control Boards.

any operational limitations or concerns

Standard:

PERFORMS Main Control Board walkdown and **IDENTIFIES** all ~~discrepancies or problems~~ on the Main Control Boards.

operational limitations

SRO: EVALUATE any Tech Specs NOT met and associated actions

RO: DISCUSS any ~~Tech Specs NOT met~~
operational limitations

The following discrepancies or problems will be identified:

DISCREPANCY
1. **11 Accumulator pressure at 600 psig**

TECH SPEC AFFECTED
TS 3.3.A.2.e - 1 hour LCO,
or be in HSD within 6 hours and
CSD within 30 hours

2. **RHR Supply to SI Pump Suction Valves
MV-32206(8816A) and MV-32207(8816B)
Indicate open by Monitor Lights on
"SI Not Ready" Panel**

TS 3.3.A.1.g(2) and TS 3.0.C -
1 hour LCO, or be in HSD within
6 hours and CSD in next 30 hours

**PRZR PORV Block Valves MV-32195
and MV-32196 de-energized**

TS 3.1.A.2.c(1)(b) ³ - 1 hour LCO,
or be in HSD within 6 hours and
< 350°F in ~~next~~ ^{next} 6 hours
following

EVALUATOR NOTE:

Valves deenergized closed, but can
NOT tell if open or closed from
Control Board indications

*to close and
remove power
from block
valves*

EVALUATOR NOTE:

The safety significance and Tech Specs for the discrepancies must be discussed by the
RO and evaluated by the SRO to receive full credit for each problem identified.
All 3 of 3 discrepancies must be found for the JPM to be evaluated as SATISFACTORY.

Comment:

Terminating cue: After response to followup question has been discussed.

CUES: — For RO, ask a followup question about operational limitations (if any)
that are in effect.
— For SRO, ask a followup question to **EVALUATE** operational limitations (if any)
that are in effect.

*Change in format of JPM. Change to a followup question
instead of an Initiating Cue.*

*Add this so
that reason for
block valves closed
& deenergized can be
identified.*

*PRZR PORVs
CV-31231
and
CV-31232
are OPEN*

*Change to
reflect
different
Tech Spec with
PORVs open*

VERIFICATION OF COMPLETION

Job Performance Measure No. _____

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question: _____

_____Response: _____

Result: SAT or UNSAT

Examiner's signature and date: _____

Initial Conditions:

- You are the on-coming Unit 1 ^{Shift Supervisor} ~~(SRO)~~ ^{Reactor Operator} ~~(RO)~~
- You are relieving the watch you were on 12 hours ago
- Unit 1 is at 90% power with no testing or other evolutions in progress

Initiating Cues:

- Perform a walkdown of the NSSS portions of the Main Control Boards as required per SWI O-0, "Conduct of Operations", Attachment 14, Section 3.7.2 and the Turnover Log
- ~~You will be given 20 minutes for the walkdown of the NSSS portions of the Main Control Boards~~
- ~~When you are finished we will discuss any discrepancies or problems noted:~~
 - ~~SRO: EVALUATE any Tech Specs NOT met (if any) and associated actions~~
 - ~~RO: DISCUSS any Tech Specs NOT met (if any)~~
- ~~You are relieving the watch you were on 12 hours ago~~
- ~~Unit 1 is at 90% power with no testing or other evolutions in progress~~
- IDENTIFY any operational limitations or concerns that you have
- I will write down any operational limitations or concerns that you have identified
- All lights have been verified to be functional
- You are NOT allowed to touch the Main Control Boards during the turnover

Corrective Changes incorporated
(enhancements) M. L. 10/02

Complete!
Comments 7/11/9
corrected

SRD of TEST A1b ①

Mus Jod
as
copy

Procedures
attached

Changes were made
to correct questions and allow
for rounding
concurrent

Facility: Prairie Island

Task No: _____

Task Title: Determine Maximum RCS Vent Time Job Performance Measure No: SRO A.1.aK/A Reference: K/A 2.1.23 [3.9/4.0]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance ☐ Actual Performance ☒ Classroom ☐ Simulator ☒ Plant ☐

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

The Control Room has been evacuated due to a fire.

Both Units are being cooled down to Cold Shutdown in accordance with F5 Appendix B.

Attachment M has been implemented for Unit 2 due to the presence of voids in the Reactor Vessel.

Task Standard: *present RCS pressure at 1750 psig*
Maximum RCS venting time calculated to be ~~40 seconds~~ 1222 minutesRequired Materials: Copy of F5 Appendix B, Attachment M, Page 3
Copy of F5 Appendix B, Figure 8

General References: F5 Appendix B

Initiating Cues:

The Unit 2 SS directs you to determine the maximum RCS venting time per F5 Appendix B, Attachment M, Page 3.

Time Critical Task: YES/NOAlternate Path: YES/NO

Validation Time: _____ Minutes

Time Started _____

Time Finished: _____

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)1 Performance step: **CRITICAL STEP**

SAT/UNSAT

DETERMINE Containment volume at standard temperature and pressure.

Standard:

Evaluator Note: This value is calculated by the formula:
$$V_{\text{cont}} = 1.32 \times 10^6 \times [492/T + 460]$$
 where T = Containment Temperature in Degrees F.Containment volume calculated to be ~~63428~~ (+1, -0) $1.1808 \times 10^6 \text{ ft}^3$
correct.

Comment:

CUE: When candidate asks for Containment Temperature, inform candidate that,
"Containment Temperature is 90 °F."2 Performance step: **CRITICAL STEP**

SAT/UNSAT

DETERMINE maximum Hydrogen volume that can be vented.

Standard:

Evaluator Note: This value is calculated by the formula: $V_{\text{max}} = [(3.0 - \text{CONC}) \times V_{\text{cont}} / 100\%]$
where CONC = Containment Hydrogen Concentration in %.Maximum Hydrogen volume that can be vented calculated to be ~~1053~~ ft³

Comment:

 35424 ft^3 **Evaluator Cue:** When candidate asks for Containment Hydrogen concentration, inform candidate that, "Containment Hydrogen concentration is 0%."

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

3 Performance step: **CRITICAL STEP**

SAT/UNSAT

DETERMINE Hydrogen flow rate (W) using Figure 8.

Standard:

Hydrogen flow rate determined to be 2900 scfm (+/-0)

Comment:

4 Performance step: **CRITICAL STEP**

SAT/UNSAT

CALCULATE maximum venting time.

Standard:

Evaluator Note: This value is calculated by the formula: $T_{max} = V_{max}/W$ No tolerance is given on this value as it uses values already determined and their allowable tolerance on those values does not change the result of this value out to the third decimal place.

Maximum RCS venting time calculated to be ~~.673 minutes or 40 seconds (+/-0).~~

Comment:

(12.22 minutes)

Terminating cue: Candidate should inform the Unit 2 SS that, "maximum RCS venting time is 40 seconds (.673 minutes)." At this point inform the candidate that, "this JPM is complete."

Complete
Comments
incorporated 7/19/02

Reduced the amount of
data to be recorded to
reduce the # of calculations

RD OPTEST LPM A.1 b ①

NEED copy of 1005 B

Model w/ copy

Loop to data is the same

Facility: Prairie Island

Task No: _____

Task Title: Perform Alternate Calculation of
RX Thermal PowerJob Performance Measure No: A.1.bK/A Reference: 2.1.23 [3.9/4.0]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance ☐ Actual Performance ☒ Classroom ☐ Simulator ☒ Plant ☐

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 1 is operating.
- NIS inputs into the "CALM" program are OOS.
- SP-1005, "Unit 1 NIS Power Range Daily Calibration," is due.

Task Standard: Complete SP-1005B accurately.

Required Materials: Steam Tables, Calculator, Copy of SP-1005B

General References: SP-1005B

Initiating Cues:

- The SS has directed you to perform SP-1005B, "Unit 1 Alternate Calculation fo Reactor Thermal Power," using Main Control Board data.

Time Critical Task: YES/NOAlternate Path: YES/NO

Validation Time: _____ Minutes

Time Started 10 16

Time Finished: _____

ATTACH Pre filled in copies of Tables with JPM
for use by evaluator.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

<u>1</u> Performance step: CRITICAL TASK	SAT/UNSAT
---	-----------

First set of Calorimetric data is gathered and recorded in Table 1

Standard:

First set of data points are recorded onto Table 1.

Comment:

CUE: If asked, as the SS direct items 'A' to be the preferred data source. When data is taken tell examinee that 5 minutes has elapsed.*SEE ATTACHED TABLE 1**NOTE: DATE CHANGES FROM*

<u>2</u> Performance step: CRITICAL STEP	SAT/UNSAT
---	-----------

Second set of calorimetric data is gathered and recorded in Table 1.

Standard:

Second set of calorimetric data are recorded in Table 1.

Comment:

*should be recorded 5 min after
completion of the first set of data***CUE:** None.*Pre requisites*

*Power stable check monitor
S/L band monitor
- R 101*

INR 45

*NOTE: ERCS TURN ON LONG between
7.1
and
7.2*

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

3 Performance step: **CRITICAL STEP**

SAT/UNSAT

AVERAGE all inputs.

Standard:

Data points are averaged and recorded onto Table 1.

Comment:

CUE: None

4 Performance step: **CRITICAL STEP**

SAT/UNSAT

CALCULATE uncorrected % full power by completing the hand calculation in table 2.

Standard:

Uncorrected % full power Calculated and recorded in table 2.

Comment:

CUE: None

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

 5 Performance step: **CRITICAL STEP**

SAT/UNSAT

CORRECT For blowdown flow

Standard:

Actual % full power calculation completed.

Comment:

CUE: None.

Terminating cue: Actual full power is calculated per step 8.4

Initial Conditions:

- Unit 1 is operating.
- NIS inputs into the "CALM" program are OOS.
- SP-1005, "Unit 1 NIS Power Range Daily Calibration," is due.

Initiating Cues:

- The SS has directed you to perform SP-1005B, "Unit 1 Alternate Calculation fo Reactor Thermal Power," using ERSC terminal in the ~~TSC or EOF.~~ *Simulator at Panel F*

**ALTERNATE CALCULATION OF
REACTOR THERMAL POWER**

NUMBER:

SP 1005BREV: **11**

Page 1 of 16

FW, MS, SB

WO: _____

Work Order Initiated: YES _____ NO _____ WO No. _____

Test Performance:

Performed By: _____
(Signature or Initials)

Date: _____, _____

Additional Requirements:

NONE

Review of Acceptability:

Acceptance Criteria Met? YES/NO

Shift Supervisor: _____

SP Completion:

Shift Supervisor: _____

Date: _____

SP Surveillance Schedule Satisfied. YES/NO Surv. Admin: _____

Other Actions for Consideration:

Nuclear Engineer Review: _____ Date: _____

O.C. REVIEW DATE: 7/3/02	OWNER: J. Kapitz	EFFECTIVE DATE 7/3/02
-----------------------------	-------------------------	--------------------------



ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

SP 1005BREV: **11**

Page 2 of 16

1.0 PURPOSE AND GENERAL DISCUSSION

- *Continuous use of procedure required.*
- *Read each step prior to performing.*
- *Mark off steps as they are completed.*
- *Procedure SHALL be at the work location.*

1.1 Purpose

- 1.1.1 This surveillance procedure provides an alternate method of calculating reactor thermal power when the ERCS calorimetric program (CALM) is not available.
- 1.1.2 Reactor thermal power is determined by a secondary plant thermodynamic calculation.

1.2 Acceptance Criteria

1.2.1 General

In the event Acceptance Criteria cannot be met, refer to Ops. Manual Section G "Surveillance And Periodic Test Program" for additional guidance.

1.2.2 Procedure Completion

This SP is acceptable when Table 2 has been completed resulting in a reactor power level determination.

1.3 General Discussion

- 1.3.1 Steps in this procedure that are not Acceptance Criteria (not asterisked) are to be observed and inconsistencies noted. If there are significant deviations or questions as to the operability, contact the Shift Supervisor or System Engineer for guidance.
- 1.3.2 Parameters outside the Minimum or Maximum require immediate contact with the Shift Supervisor. In some cases, this may require prompt action to prevent equipment damage. Consideration should be given to aborting the procedure.



ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

SP 1005BREV: **11**

Page 3 of 16

- 1.3.3** Every step identified by an asterisk (*) must be acceptable for this test to be acceptable. IF any acceptance step is not met, THEN the Shift Supervisor **SHALL** be notified immediately.
- 1.3.4** Several steps of this procedure may be performed by operations personnel outside of the Control Room, with these steps identified by a "pound sign" (#).

2.0 REFERENCES

- 2.1** SP 1005, NIS Power Range Daily Calibration
- 2.2** Tech Spec: T.S.4.1, Operational Safety Review (1.3.3.3.1, 1.3.3.3.2, 1.3.3.3.3, 1.3.3.3.4, 1.3.3.3.5, 1.3.3.3.6, 1.3.3.3.7, 1.3.3.3.8, 1.3.3.3.9, 1.3.3.3.10, 1.3.3.3.11, 1.3.3.3.12, 1.3.3.3.13, 1.3.3.3.14, 1.3.3.3.15, 1.3.3.3.16, 1.3.3.3.17, 1.3.3.3.18, 1.3.3.3.19, 1.3.3.3.20, 1.3.3.3.21, 1.3.3.3.22, 1.3.3.3.23, 1.3.3.3.24, 1.3.3.3.25, 1.3.3.3.26, 1.3.3.3.27, 1.3.3.3.28, 1.3.3.3.29, 1.3.3.3.30, 1.3.3.3.31, 1.3.3.3.32, 1.3.3.3.33, 1.3.3.3.34, 1.3.3.3.35, 1.3.3.3.36, 1.3.3.3.37, 1.3.3.3.38, 1.3.3.3.39, 1.3.3.3.40, 1.3.3.3.41, 1.3.3.3.42, 1.3.3.3.43, 1.3.3.3.44, 1.3.3.3.45, 1.3.3.3.46, 1.3.3.3.47, 1.3.3.3.48, 1.3.3.3.49, 1.3.3.3.50, 1.3.3.3.51, 1.3.3.3.52, 1.3.3.3.53, 1.3.3.3.54, 1.3.3.3.55, 1.3.3.3.56, 1.3.3.3.57, 1.3.3.3.58, 1.3.3.3.59, 1.3.3.3.60, 1.3.3.3.61, 1.3.3.3.62, 1.3.3.3.63, 1.3.3.3.64, 1.3.3.3.65, 1.3.3.3.66, 1.3.3.3.67, 1.3.3.3.68, 1.3.3.3.69, 1.3.3.3.70, 1.3.3.3.71, 1.3.3.3.72, 1.3.3.3.73, 1.3.3.3.74, 1.3.3.3.75, 1.3.3.3.76, 1.3.3.3.77, 1.3.3.3.78, 1.3.3.3.79, 1.3.3.3.80, 1.3.3.3.81, 1.3.3.3.82, 1.3.3.3.83, 1.3.3.3.84, 1.3.3.3.85, 1.3.3.3.86, 1.3.3.3.87, 1.3.3.3.88, 1.3.3.3.89, 1.3.3.3.90, 1.3.3.3.91, 1.3.3.3.92, 1.3.3.3.93, 1.3.3.3.94, 1.3.3.3.95, 1.3.3.3.96, 1.3.3.3.97, 1.3.3.3.98, 1.3.3.3.99, 1.3.3.3.100)
- 2.3** Project 81Y181R, 87Y785, Modification Documentation
- 2.4** Flow Diagrams:
- NF-39218, Main Auxiliary Steam & Steam Dump
 - NF-39222, Feedwater System Unit 1
 - NF-88740, Steam Generator Blowdown System Units 1 & 2
- 2.5** Implementing Reference(s)
- C21.1.2, PROGRAMMABLE CONTROLLER SYSTEM

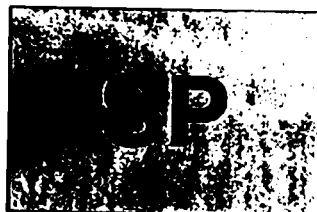
3.0 PRECAUTIONS AND LIMITATIONS

- 3.1** Do not use invalid or rejected ERCS points.
- 3.2** If instrument accuracy is in question, verify instrument accuracy with I&C.

4.0 PERSONNEL AND SPECIAL EQUIPMENT REQUIREMENTS

4.1 Suggested Personnel

- 4.1.1** One (1) Control Room Operator - to record data and make calculations.
- 4.1.2** One (1) Outplant Operator - to take data.
- 4.1.3** One (1) Instrumentation & Control Technician - to take data.

**ALTERNATE CALCULATION OF
REACTOR THERMAL POWER**

NUMBER:

SP 1005BREV: **11**

Page 4 of 16

4.2 Special Equipment

Calibrated Digital Volt Meter (DVM)

PI Number _____ Calibration Due Date: _____

5.0 SPECIAL CONSIDERATIONS

NONE

6.0 PREREQUISITES AND INITIAL CONDITIONS**6.1** Power greater than 15% rated thermal power.**6.2** $T_{AVG} = T_{REF} \pm 0.5^{\circ}\text{F}$ except in coastdown operations per C1.4.**6.3** Power as measured by NIS is stable, $\pm 1\%$.**6.4** SG level is on program $\pm 4\%$.

**ALTERNATE CALCULATION OF
REACTOR THERMAL POWER**

NUMBER:

SP 1005BREV: **11**

Page 5 of 16

7.0 PROCEDURE

- 7.1** Record the Parameter sources and values for the FIRST SET of data in Table 1. **N/A** portions of table that are not used.

Each calorimetric parameter has several potential sources for the required data. Parameter sources are sequentially listed by preference, but the Shift Supervisor may select any of the listed sources. Record the selected data in Table 1. The data points not used should be marked NA.

ERCS Turn-On-Code (TOC) GRPDIS, Group (SP1005B), may be used to obtain values for some of the ERCS points.

7.2 Steam Generator Pressure**7.2.1 11 Steam Generator****A. ERCS:**

1U2015A, STEAM GENERATOR A AVERAGE PRESS

1P0400A, LOOP A STM GEN PRESS 468

1P0401A, LOOP A STM GEN PRESS 469

1P0402A, LOOP A STM GEN PRESS 482

**B. Main Control Board Pressure Recorder 1PR-468
(42068):**

CH1: 1P-468

CH2: 1P-469

CH3: 1P-482

C. Main Control Board Pressure Indicators:

1PI-468 (4113701)

1PI-469 (4113702)

1PI-482A (4113703)

**ALTERNATE CALCULATION OF
REACTOR THERMAL POWER**

NUMBER:

SP 1005BREV: **11**

Page 6 of 16

D. HSD panel (51000) Pressure Indication: N/A

1PI-482B (11710), STM GEN MN STM HDR PI

7.2.2 12 Steam GeneratorA. ERCS: OK

1U2016A, STEAM GENERATOR B AVERAGE PRESS

1P0420A, LOOP B STM GEN PRESS 478

1P0421A, LOOP B STM GEN PRESS 479

1P0422A, LOOP B STM GEN PRESS 483

B. Main Control Board Pressure Recorder: N/A

1PR-478 (42069)

CH1: 1P-478

CH2: 1P-479

CH3: 1P-483

C. Main Control Board Pressure Indicators: N/A

1PI-478 (4113801)

1PI-479 (4113802)

1PI-483A (4113803)

D. HSD panel (51000) Pressure Indication: N/A

1PI-483B (11711), STM GEN MN STM HDR PI

ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

SP 1005B

REV: 11

Page 7 of 16

7.3 Feedwater Temperature

I&C personnel support will be required for data retrieval.

7.3.1 11 SG FW Inlet Temperature

A. ERCS:

1T0418A, LOOP A STM GEN FW TEMP

1U2011A, STEAM GENERATOR A FEEDWATER TEMP

- B. Send I&C Tech to retrieve Digital Volt Meter (DVM) test point data from 1FW rack (TP/TQ498 LOOP A FW TEMP) and report the data to Operations.

Convert DVM data to temperature using the following calculation:

$$\text{Temperature (°F)} = \frac{(\text{DVM data} - 0.1)}{0.4} \times 500^{\circ}\text{F}$$

		DVM	°F
First Set	Loop A	<u>N/A</u>	<u>N/A</u>
Second Set	Loop A	<u>N/A</u>	<u>N/A</u>

I&C Engineering SHOULD be contacted prior to using the common RTD reading. The accuracy of this reading may need engineering review.

- C. Request I&C obtain the common FW Line Temperature from RTD-TE-15255, 11/12 SG FW Hdr RTD.



ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

SP 1005B

REV: 11

Page 8 of 16

I&C personnel support will be required for data retrieval.

7.3.2 12 SG FW Inlet Temperature

A. ERCS:

1T0438A, LOOP B STM GEN FW TEMP

1U2012A, STEAM GENERATOR B FEEDWATER TEMP

- B. Send I&C Tech to retrieve Digital Volt Meter (DVM) test point data from 1FW rack (TP/TQ499 LOOP B FW TEMP) and report the data to Operations.

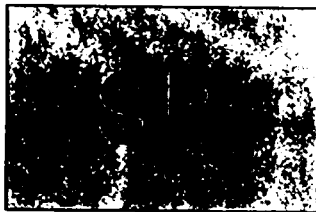
Convert DVM data to temperature using the following calculation:

$$\text{Temperature (°F)} = \frac{(\text{DVM data} - 0.1)}{0.4} \times 500^{\circ}\text{F}$$

		DVM	°F
First Set	Loop B	<u>N/A</u>	<u>N/A</u>
Second Set	Loop B	<u>N/A</u>	<u>N/A</u>

I&C Engineering SHOULD be contacted prior to using the common RTD reading. The accuracy of this reading may need engineering review.

- C. Request I&C obtain the common FW Line Temperature from RTD-TE-15255, 11/12 SG FW Hdr RTD.



ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

SP 1005B

REV: 11

Page 9 of 16

7.4 Feedwater Flow

Variance in Feedwater Flow has the greatest effect on calorimetric Reactor Thermal Power.

7.4.1 11 SG Feedwater Flow

A. ERCS:

If 1U2028A is used, insert this value directly in Table 2 at step B7 and NA steps B1 thru B6 of Table 2.

1. 1U2028A (MLB/HR) *3.587*
2. 1F2511A (SQRTIN)
3. 1AFWAV (SQRTIN) - 5 minute average

- B. Notify I&C to retrieve DVM test point data from 1FW rack (TP/FQ495 LOOP A FW FLOW) and report the data to Operations.

Record DVM readings, then convert to square-root-extracted inches of water for use in the calculation.

$$\sqrt{IN} \text{ H}_2\text{O} = \frac{(\text{DVM reading} - 0.1)}{0.4} \times 19.35 \sqrt{IN} \text{ H}_2\text{O}$$

		DVM	Flow
First Set	Loop A	<i>N/A</i>	<i>N/A</i>
Second Set	Loop A	<i>4</i>	<i>4</i>

IF the feedwater flow transmitter is not available, THEN complete Step 7.4.1.C Other times, this step may be NA'ed.

- C. Notify I&C to install a calibrated DP Barton indicator (connect Barton at tap set 2 for Loop A) that reads in inches of water and report the data to Operations.

ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

SP 1005B

REV: 11

Page 10 of 16

7.4.2 12 SG Feedwater Flow

A. ERCS:

If 1U2029A is used, insert this value directly in Table 2 at step B7 and N/A steps B1 thru B6 of Table 2.

1. 1U2029A (MLB/HR) 3.582
2. 1F2512A (SQRTIN)
3. 1BFWAV (SQRTIN) - 5 minute average

- B. Notify I&C to retrieve DVM test point data from 1FW rack (TP/FQ497 LOOP B FW FLOW) and report the data to Operations.

Record DVM readings, then convert to square-root-extracted inches of water for use in the calculation.

$$\sqrt{IN} H_2O = \frac{(DVM \text{ reading} - 0.1)}{0.4} \times 19.28 \sqrt{IN} H_2O$$

		DVM	Flow
First Set	Loop B	N/A	N/A
Second Set	Loop B		

IF the feedwater flow transmitter is not available, THEN complete step 7.4.2. C. Other times, this step may be N/A'ed.

- C. Notify I&C to install a calibrated DP Barton indicator (connect Barton at tap set 1 for Loop B) that reads in inches of water and report the data to Operations.

**ALTERNATE CALCULATION OF
REACTOR THERMAL POWER**

NUMBER:

SP 1005BREV: **11**

Page 11 of 16

7.5 Steam Generator Blowdown Flow

For Graphic Display - Notify Aux Building Operator to retrieve SG Blowdown Flow using the 1SGB Program in the Programmable Controller System (PCS) per C21.1.2.

7.5.1 11 SGB Flow

- A. ERCS - 1U2017A, STEAM GENERATOR A BLOWDOWN FLOW.
- B. Panel 58350, SGB; WL; ARTD SYSTEMS GRAPHIC DISPLAY SYSTEM.
- C. Local Flow Indication - FI-58101, 11 SGB FI.

7.5.2 12 SGB Flow

- A. ERCS - 1U2018A, STEAM GENERATOR B BLOWDOWN FLOW.
- B. Panel 58350, SGB; WL; ARTD SYSTEMS GRAPHIC DISPLAY SYSTEM.
- C. Local Flow Indication - FI-58102, 12 SGB FI.

7.6 Five (5) minutes after the initial data was recorded, using the same sources as identified in Step 7.1, record the SECOND SET of data in Table 1.

7.7 Complete the Average column.

7.8 Use Table 1 Average Data and calculate the % full power by completing Table 2.

7.9 If this procedure (SP 1005B) was initiated by SP 1005, record the calculated percent reactor thermal power as the Average Reactor Thermal Power in Table 1 of SP 1005. Otherwise, this step is N/A'ed.

7.10 Attach this SP (SP 1005B) to the initiating procedure.

**ALTERNATE CALCULATION OF
REACTOR THERMAL POWER**

NUMBER:

SP 1005BREV: **11**

Page 12 of 16

8.0 ADDITIONAL REQUIREMENTS

NONE

9.0 ATTACHMENTS

9.1 Table 1 - Calorimetric Input Data

9.2 Table 2 - Hand Calculation Sheet.

9.3 Figure 1 - Thermal Expansion Factor 304 Stainless Steel Nozzles.

ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

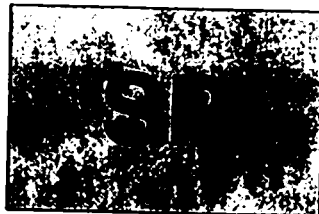
SP 1005B

REV: 11

Page 13 of 16

Table 1 Calorimetric Input Data

PARAMETER	SOURCE	FIRST SET	SECOND SET	AVERAGE
TIME	N/A	1028 ¹⁰⁴⁰	1045	N/A
LOOP A				
11 Steam Generator Pressure (psig)	ERCS 142015A	709.4	709.4	709.4
11 Feedwater Temperature (°F)	ERCS 142011A	432.3	432.3	432.3
11 Feedwater Flow $\sqrt{\text{in H}_2\text{O}}$	ERCS 1F2511A	15.567	15.567	15.567
11 Steam Gen Blowdown Flow (gpm)	ERCS 142017A	59.1	59.1	59.1
LOOP B				
12 Steam Generator Pressure (psig)	ERCS 142016A	709.5	709.5	709.5
12 Feedwater Temperature (°F)	ERCS 142012A	432.3	432.3	432.3
12 Feedwater Flow $\sqrt{\text{in H}_2\text{O}}$	ERCS 1F2512A	15.482	15.482	15.482
12 Steam Gen Blowdown Flow (gpm)	ERCS 142018A	41.7	41.7	41.7



ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

SP 1005B

REV: 11

Page 14 of 16

Table 2 Hand Calculation Sheet

A. STEAM GENERATOR ENTHALPY CHANGE

1. Steam Pressure (psig)
+14.7
Steam Pressure (PSIA)
2. Corresponding Enthalpy (h_g) BTU/lb
(Use Steam Tables)
3. Feedwater Temperature ($^{\circ}$ F)
4. Corresponding Enthalpy (h_f) BTU/lb
(Use Steam Tables)
5. Enthalpy Difference
(A2 - A4) BTU/lb

LOOP A		LOOP B	
709.4		709.5	
+14.7		+14.7	
724.1	LOOP A	724.2	LOOP B
	1201.27		1201.27
432.3		432.3	
	410.44		410.44
	790.83		790.83

B. FEEDWATER FLOW

1. Flow ($\sqrt{\text{in H}_2\text{O}}$)
2. F_a (from Figure 1)
3. Flow Constant
4. B1 (X) B2 (X) B3 =
5. Feedwater Specific Volume @ Temp A3, (Use Steam Tables)
6. $\sqrt{V_f} = \sqrt{B5}$
7. $m(\text{feedflow in } 10^6 \text{ lb/hr}) = (B4) + (B6)$

15.567	15.482
1.0069	1.0069
0.03161	0.03174
0.49547	0.49479
0.01934	0.01934
0.13832	0.13872
3.587	3.582

ALTERNATE CALCULATION OF REACTOR THERMAL POWER

NUMBER:

SP 1005B

REV: 11

Page 15 of 16

Table 2 Hand Calculation Sheet

C. POWER

1. A5 (X) B7 = Loop Thermal Power *790.837*
2. Loop A (+) Loop B = Total Thermal Power
Minus 24 (RCP thermal input) *3.587*
3. Total Thermal Power in 10^6 BTU/hr
(X) 0.2929
4. Total Thermal Power in Megawatts
(X) 0.06061
5. % Full Power (uncorrected for steam generator blowdown)

LOOP A	LOOP B
2836.71	2832.75
5669.46	
-24.0	
5645.46	
X 0.2929	
1653.56	
X 0.06061	
100.22	

FP = Full Power corrected for SG blowdown

FPuc = Full Power uncorrected for blowdown

SGA = SG "A" Blowdown Flow in gpm

SGB = SG "B" Blowdown Flow in gpm

- * 6. % Full Power (corrected for steam gen. blowdown)

$$FP = (FPuc) - \left[\frac{(SGA + SGB) - 20}{200} \right]$$

$$FP = (100.22) - \left[\frac{(591.47) - 20}{200} \right]$$

$$FP = 99.82 \% \text{ Full Power}$$

ALTERNATE CALCULATION OF
REACTOR THERMAL POWER

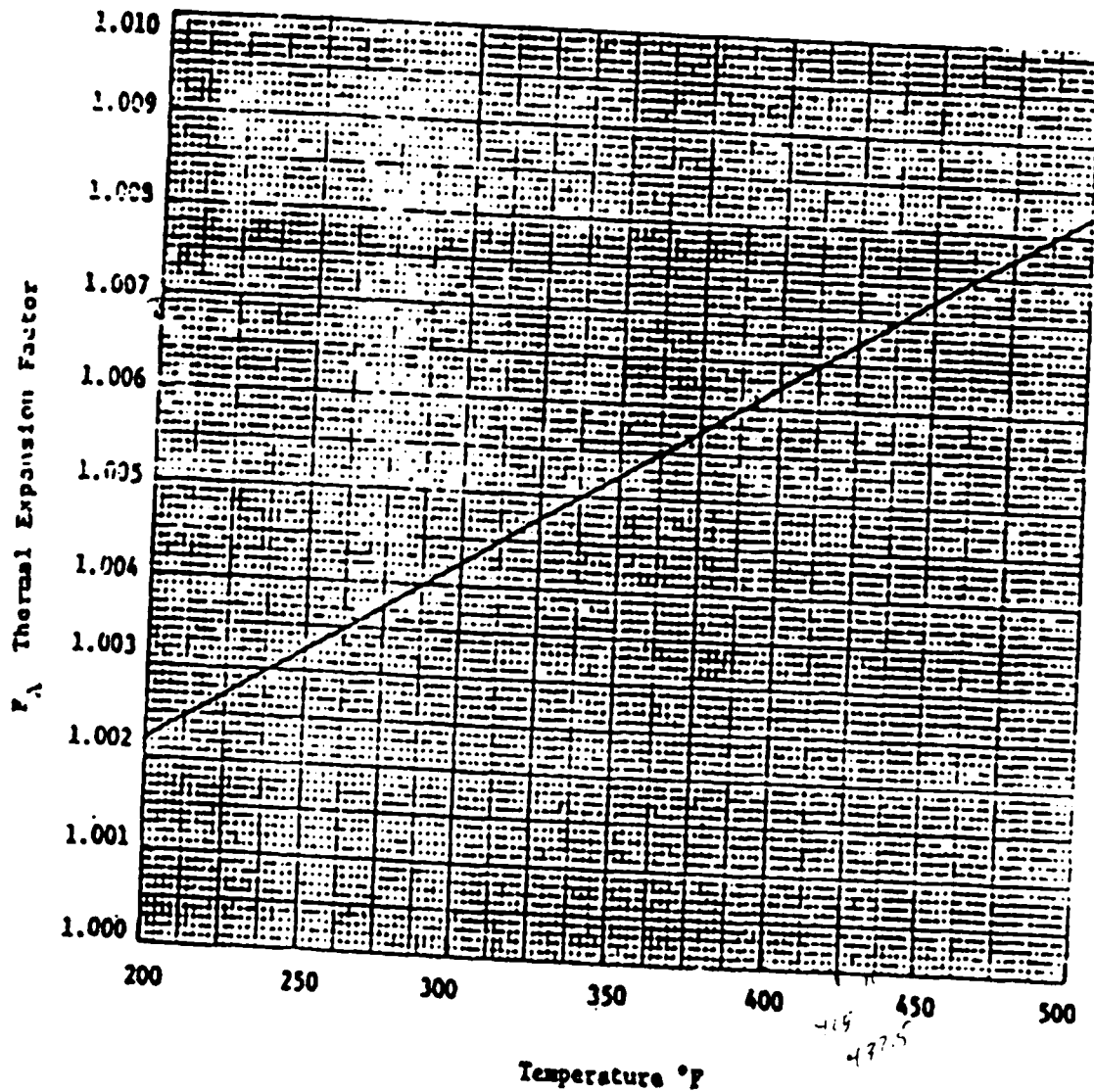
NUMBER:

SP 1005B

REV: 11

Page 16 of 16

Figure 1 Thermal Expansion Factor 304 Stainless Steel Nozzles



Abstracted from Nozzle Vendors Manual W-1014, Section 9.

Facility: Prairie Island

Task No: _____

Task Title: Prepare an Isolation for
11 TD AFW PumpJob Performance Measure No: RO A.2K/A Reference: 2.2.13, 2.1.24 [3.1/3.3, 2.8/3.1]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance X Actual Performance ____ Classroom X Simulator ____ Plant ____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 1 is at 100 % power
- While running the 11 TD AFWP for surveillance, a steam leak developed on the turbine casing for the pump, and there was excessive water leakage on the inboard pump seal
- The 11 TD AFWP was just shutdown and declared inoperable

Task Standard: IDENTIFY the components to mechanically isolate both the steam side and the water side of the 11 TD AFWP on the form provided.

Required Materials: ~~1. Flow Diagrams: NF-39216-2, NF-39218, and NF-39222~~
~~2. C28-2, "Auxiliary Feedwater System Unit 1"~~

General References: 1. Flow Diagrams: NF-39216-2, NF-39218, and NF-39222
2. B Section Figures B27-01, B28B-1, and B28B-2
3. C28-2, "Auxiliary Feedwater System Unit 1"

Initiating Cues:

- The Shift Supervisor directs you to IDENTIFY the ^{valves} components and their positions to mechanically isolate the 11 TD AFWP ~~on the steam side and on the water side.~~
- DOCUMENT using the form provided. ^{Include normally closed valves}
- A tag section per 5AWI 15.5.1, "Plant Equipment Control and Clearance Process" will be performed at a later time through Work Control which will include an electrical isolation ^{and} of the ~~appropriate components: 11 TD AFWP~~ ^{drawn/testing}
- At the present time ~~we just need to mechanically isolate~~ the steam side and water side ~~leaks on the 11 TD AFWP until Work Control requests the tag section for the pump.~~
^{the Shift Supervisor just needs you to IDENTIFY the valves and their positions required to provide a mechanical isolation board for the 11 TD AFWP. These valves will later be on the tag section to be written for the pump.}

Time Critical Task: YES/NO

Alternate Path: YES/NO

Validation Time: _____ Minutes

Time Started _____

Time Finished: _____

- CHAMPS is NOT available

Conc.
Changes incorporated
(Contributions).
M. L. L. L.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

<u>1</u>	Performance step: CRITICAL STEP	SAT/UNSAT
----------	--	-----------

IDENTIFY steam supply to the 11 TD AFWP is to be isolated.

Standard:

IDENTIFY steam supply to the 11 TD AFWP is to be isolated by documenting the following on the form provided:

CLOSE MV-32016, "11 MAIN STM TO 11 TD AFWP" using control switch CS-46127

CLOSE MV-32017, "12 MAIN STM TO 11 TD AFWP" using control switch CS-46128

OR

Locally TRIP CLOSED the overspeed trip valve CV-31059, "TRIP / THROTTLE VALVE TO 11 TD AFWP"

Comment:

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

<u> 2 </u> Performance step:	CRITICAL STEP	SAT/UNSAT
--------------------------------	----------------------	-----------

IDENTIFY discharge of the 11 TD AFWP is to be isolated.

Standard:

IDENTIFY discharge of the 11 TD AFWP is to be isolated by documenting the following on the form provided:

**Locally CLOSE the 11 TD AFWP manual discharge valve AF-13-3 "11 AFWP DISCHARGE"
OR**

CLOSE MV-32238, "11 TD AFWP TO 11 STM GEN" using control switch CS-46314

CLOSE MV-32239, "11 TD AFWP TO 12 STM GEN" using control switch CS-46315

Locally CLOSE AF-17-1 "11 AFWP TEST LINE ISOLATION"

Locally CLOSE AF-18-1 "11 AFWP RECIRC / LUBE OIL COOLING"

EVALUATOR NOTES:

- **There is some latitude allowed, in that other arrangements of valves may be selected and closed and still accomplish the required mechanical isolation of the discharge the 11 TD AFWP**
- **Other selection of valves to accomplish the required isolation of the discharge of the 11 TD AFWP must be evaluated on a case-by-case basis**

Comment:

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

<u>3</u>	Performance step: CRITICAL STEP	SAT/UNSAT
----------	--	-----------

IDENTIFY suction of the 11 TD AFWP is to be isolated.

Standard:

IDENTIFY suction of the 11 TD AFWP is to be isolated by documenting the following on the form provided:**CLOSE MV-32333, "COND TO 11 TD AFWP SUCT" using control switch CS-46420****AND → VERIFY CLOSED MV-32025, "CLG WTR TO 11 TD AFWP SUCT" using control switch CS-46433**

^{OR}
Comment: CLOSE CL 113-1, "CLG WTR ISOLATION TO 11 AFWP"

Terminating cue:

→ Add manual valve which could be used to isolate the cooling water section supply to 11 TD AFWP

Conc. Comments incorporated.
N/A/2

VERIFICATION OF COMPLETION

Job Performance Measure No. _____

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question: _____

_____Response: _____

Result: SAT or UNSAT

Examiner's signature and date: _____

Put valve ID numbers
instead of
control symbol
numbers

ISOLATION FOR THE 11 TD AFWP

Conc. changes
incorporated.
M/L/B

Component ID	Component Description	Isolation Status
MV 32-16 CS-46127*	11 MAIN STM TO 11 TD AFWP MV-32016	CLOSED
MV 32-17 CS-46128*	12 MAIN STM TO 11 TD AFWP MV-32017	CLOSED
CV-31059* CV-31054	TRIP / THROTTLE VALVE TO 11 TD AFWP	CLOSED/TRIPPED
AF-13-3+	11 AFWP DISCHARGE	CLOSED
CS-46314++ ^{MV-32238}	11 TD AFWP TO 11 STM GEN MV-32238	CLOSED
CS-46315++ ^{MV-32239}	11 TD AFWP TO 12 STM GEN MV-32239	CLOSED
AF-17-1++	11 AFWP TEST LINE ISOLATION	CLOSED
AF-18-1++	11 AFWP RECIRC / LUBE OIL COOLING	CLOSED
CS-46420 ^{MV-32333}	COND TO 11 TD AFWP SUCT MV-32333	CLOSED
CS-46433 ^{MV-32025 #}	CLG WTR TO 11 TD AFWP SUCT MV-32025	CLOSED
CL-113-1 ##	CLG WTR ISOLATION TO 11 AFWP	CLOSED

EVALUATOR NOTES:

Add manual valve which could be used to isolate the cooling water suction supply to 11 TD AFWP.

- Either the valves identified by an asterisk (*) OR the valves identified by a double asterisk (**) must be closed
- Either the valves identified by a plus (+) OR the valves identified by a double plus (++) must be closed
- There is some latitude allowed, in that other arrangements of valves may be selected and closed and still accomplish the required mechanical isolation of the steam side and the water side of the 11 TD AFWP
- Other selection of valves to accomplish the required isolation of the 11 TD AFWP must be evaluated on a case-by-case basis

- Either the valve identified by a pound sign (#) OR the valve identified by a double pound sign (##) must be closed

Since manual valve or motor operated valve could be used for isolation.

Initial Conditions:

- Unit 1 is at 100 % power
- While running the 11 TD AFWP for surveillance,
- a steam leak developed on the turbine casing for the pump, and there was excessive water leakage on the inboard pump seal
- The 11 TD AFWP was just shutdown and declared inoperable

(Concerns
Changes incorporated (enhancements)
M. Keller

Initiating Cues:

- The Shift Supervisor directs you to ^{valves}IDENTIFY the ^{required} components and their positions to ^{mechanically}isolate the 11 TD AFWP ^{Include normally closed valves} on the steam side and on the water side.
- DOCUMENT using the form provided.
- ^{CHAMPS IS NOT AVAILABLE}A tag section per 5AWI 15.5.1, "Plant Equipment Control and Clearance Process" will be performed at a later time through Work Control which will include an electrical isolation ^{and de-energizing of the 11 TD AFWP} of the appropriate components.
- At the present time we just need to mechanically isolate the steam side and water side leaks on the 11 TD AFWP until Work Control requests the tag section for the pump. the Shift Supervisor just needs you to IDENTIFY the valves and their positions required to provide a mechanical isolation boundary for the 11 TD AFWP. These valves will later be put on the tag section to be written for the pump.

ISOLATION FOR THE 11 TD AFWP

[illegible]

Facility: Prairie Island

Task No: _____

Task Title: Review an Isolation for 11 TD AFW
Pump and Determine if any Tech
Spec LCOs will ResultJob Performance Measure No: SRO A.2K/A Reference: 2.2.13, 2.1.24 [3.1/3.3, 2.8/3.1]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance X Actual Performance ____ Classroom X Simulator ____ Plant ____**READ TO THE EXAMINEE**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 1 is at 100 % power, Diesel Generator D2 is OOS (on day 2 of 7 day clock), 11 Charging Pump is OOS
- Unit 2 is at 100% power, NO Tech Spec LCOs in effect

Task Standard: RECOGNIZE that the Risk Profile and Technical Specifications will NOT allow the 11 TD AFWP to be taken OOS, and thus NOT approve the Tag Section for the 11 TD AFWP to be released for isolation.
EVALUATE affected Tech Specs for the inoperability of the 11 TD AFWP.

- Required Materials:
1. Tag Section for the 11 TD AFWP
 2. Work Week Schedule showing 11 TD AFWP to be taken OOS today
 3. PRA risk profile with Diesel Generator D2 OOS
 4. Flow Diagrams: NF-39216-2, NF-39218, and NF-39222
 5. C28-2, "Auxiliary Feedwater System Unit 1"
 6. Technical Specifications

- General References:
1. Flow Diagrams: NF-39216-2, NF-39218, and NF-39222
 2. B Section Figures B27-01, B28B-1, and B28B-2
 3. C28-2, "Auxiliary Feedwater System Unit 1"
 4. Technical Specifications

Replaced JPM with another JPM to perform a Risk Assessment for 11 TD AFWP emergent work, because the 11 TD AFWP would not be taken OOS under the conditions specified in this JPM.
Nuclear

Facility: Prairie Island

Task No: _____

Task Title: Review an Isolation for 11 TD AFW
Pump and Determine if any Tech
Spec LCOs will ResultJob Performance Measure No: SRO A.2K/A Reference: 2.2.13, 2.1.24 [3.1/3.3, 2.8/3.1]**Initiating Cues:**

- A Tag Section was brought to you for approval to take OOS the 11 TD AFWP.
- A copy of the Work Week Schedule is attached.
- The PRA risk profile with Diesel Generator D2 OOS is also attached.
- You are being requested to review and approve the Tag Section for the 11 TD AFWP and release it for isolation.
- You also need to EVALUATE what (if any) Technical Specifications would be associated with the OOS of the 11 TD AFWP.

Time Critical Task: YES/NOAlternate Path: YES/NO

Validation Time: _____ Minutes

Time Started _____

Time Finished: _____

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

 1 Performance step: **CRITICAL STEP** SAT/UNSAT

EVALUATE and do NOT approve the Tag Section for the 11 TD AFWP to be released for isolation.

Standard:

RECOGNIZES that the Risk Profile and Technical Specifications will NOT allow the 11 TD AFWP to be taken OOS, and thus does NOT approve the Tag Section for the 11 TD AFWP to be released for isolation.

Comment:

 2 Performance step: SAT/UNSAT

EVALUATE the Tag Section for the 11 TD AFWP for accuracy.

Standard:

IDENTIFIES that the Tag Section for the 11 TD AFWP is accurate.

Comment:

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

<u> 3 </u> Performance step:	CRITICAL STEP	SAT/UNSAT
--------------------------------	----------------------	-----------

EVALUATE affected Tech Specs for the inoperability of the 11 TD AFWP.

Standard:

- **DETERMINE that if 11 TD AFWP were made inoperable that Tech Spec 3.4.B apply**
- **DETERMINE that Diesel Generator D2 is the emergency power source for the 12 MD AFWP**
- **DETERMINE based on the DEFINITION of "OPERABLE - OPERABILITY" in Section 1.0 of Tech Specs that the 12 MD AFWP would also become inoperable if the 11 TD AFWP were made inoperable**
- **DETERMINE that Tech Spec 3.0.C would then apply and that action would be required within one hour to initiate placing Unit 1 in HOT SHUTDOWN within the next 6 hours, and to reduce RCS average temperature below 350°F within the following 6 hours**

Comment:

Terminating cue:

VERIFICATION OF COMPLETION

Job Performance Measure No. _____

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question: _____

_____Response: _____

Result: SAT or UNSAT

Examiner's signature and date: _____

Initial Conditions:

- Unit 1 is at 100 % power, Diesel Generator D2 is OOS (on day 2 of 7 day clock), 11 Charging Pump is OOS
- Unit 2 is at 100% power, NO Tech Spec LCOs in effect

Initiating Cues:

- A Tag Section was brought to you for approval to take OOS the 11 TD AFWP.
- A copy of the Work Week Schedule is attached.
- The PRA risk profile with Diesel Generator D2 OOS is also attached.
- You are being requested to review and approve the Tag Section for the 11 TD AFWP and release it for isolation.
- You also need to EVALUATE what (if any) Technical Specifications would be associated with the OOS of the 11 TD AFWP.

Completed
Changes incorporated

7/19/02

Comments made by
Chief Examiner

RO OP TEST JPM 4.3 ①

Made up version

Procedure attached

Facility: Prairie Island

Task No: _____

Task Title: Preparations for emergency
containment entryJob Performance Measure No: ROA.3K/A Reference: 2.3.10 [2.9/3.3]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance X Actual Performance ____ Classroom X Simulator ____ Plant ____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 1 is at 25% during startup.
- A 2.0 gpm RCS leak has been detected during the performance of the daily leak rate surveillance.
- It is suspected that RC-1-1 and RC-1-2 are leaking by their seats into the RCDT
- R-11 and R-12 are alarming on-scale. — not bold
- A team is being assembled to enter containment to attempt isolation of the leak (located in A Loop RCP vault)
- Containment temperature is 92°

- Reactants
- Temp
- Parameters

3 specific things to ensure they check

Task Standard: At least 8 requirements identified for an emergency containment entry with R-11 and R-12 alarming on scale.

Required Materials: F-2, "Radiation Safety," Rev.20. SAFETY MANUAL

General References: F-2, "Radiation Safety," Rev.20.

Initiating Cues:

- The SM has directed you to prepare for an emergency containment entry per F-2.
- You are to list all requirements that must be met prior to containment entry.

Time Critical Task: YES/NOAlternate Path: YES/NO

Validation Time: _____ Minutes

Time Started _____

Time Finished: _____

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

1 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.3.2

Standard:

Candidate finds and reads F-2, "Radiation Safety," Rev.20. Step 9.3.2, "Emergency Entry is defined as non-routine entry for inspection or operation such as a fire alarm or limit switch position check."

Comment:

CUE: If asked provide the candidate a copy of F-2, "Radiation Safety," Rev.20.

Add step

** may note req't of no entry during sby
item 9.1.2*

cue: startup secured. no reactivity changes...

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

2 Performance step: **CRITICAL STEP**

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2

Specific requirements for containment entry while at hot standby and power are spelled out in these procedures.

F-2, "Radiation Safety," Rev.20. Step 9.2.1, The entry team SHALL be equipped with dosimeters, TLD's, and a beta-gamma survey instrument.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None

3 Performance step: **CRITICAL STEP**

SAT/UNSAT

? **F-2, "Radiation Safety," Rev.20. Step 9.2.2, Entry into the RC loops and Reactor Cavity SHALL NOT be permitted without permission from the superintendent of Radiation Protection and Chemistry or his designee.**

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

*Similar
item in
the quest?*

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

4 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.3, Prior to containment entry, contact the Shift Supervisor to confirm the following:

- A. There is not flux mapping or incore detector movement in progress. ~~Very high radiation dose rates and possible overexposures can be caused by the incore detectors.~~
- B. The Shield building ventilation systems are secured.
- C. ~~Both the personnel and the maintenance airlocks are unlocked.~~

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

5 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.4, ^{If the unit is above cold shutdown} ~~If the unit is above cold shutdown~~, one shield building door at each entry **SHALL** be closed at all times.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

6 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.5, Before entry, a pre-job briefing **SHALL** be conducted with those entering and Control Room personnel, as appropriate. This pre-job briefing **SHALL** include a discussion of all tour/work locations and anticipated radiation levels (PINGP 1112)

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

7 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.6, All personnel entering the containment **SHALL** check in with the Control Room, or the designated person at the airlock, if posted.

When contacting Control Room prior to Containment entry at power, **ensure** all, personnel are wearing a TLD and Electronic Dosimeter (ED) and the ED is turned on (number and mRem indicated with the window).

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)8 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.7, All personnel should use discretion when temperatures are above 85 degrees. The guidelines for heat stress in the NSP PINGP Safety Manual should be reviewed. Backup teams and stay times may be required.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

*recommended using ice vest, stay time
(safety manual)
Must note that the conditions is > 85°*

9 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.8, When all personnel are out of the containment, the personnel and maintenance airlock hatches **SHALL** be locked.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

There is not a requirement for control entry

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

10	Performance step:	SAT/UNSAT
----	-------------------	-----------

F-2, "Radiation Safety," Rev.20. Step 9.2.7, All personnel should use discretion when temperatures are above 85 degrees. The guidelines for heat stress in the NSP PINGP Safety Manual should be reviewed. Backup teams and stay times may be required.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

11	Performance step:	SAT/UNSAT
----	-------------------	-----------

F-2, "Radiation Safety," Rev.20. Step 9.2.8, When all personnel are out of the containment, the personnel and maintenance airlock hatches **SHALL** be locked.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

12 Performance step: **CRITICAL STEP** SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.3.2, B. If R-11 and R-12 of the appropriate Unit are:

1. Not alarming and normal readings, entry may be made without any respiratory protection.
2. **Alarming on scale, entry may be made with the use of a MSA Ultralite II.**
3. Alarming off scale, no entry may be made without the Supt. Rad Protection or designee appraisal and approval.

Standard:

Candidate determines that this requirement ²(3) applies and documents by listing on the sheet provided.

Comment:

CUE: If asked inform the candidate that R11 and R 12 are alarming **ON** scale.

13 Performance step: SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.3.2, ^cobserve the requirements of the Radiation Work Permit.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

Terminating cue: When the candidate determines that all F-2 requirements are listed.

VERIFICATION OF COMPLETION

Job Performance Measure No. _____

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question: _____

Response: _____

Result: SAT or UNSAT

Examiner's signature and date: _____

Initial Conditions:

- Unit 1 is at 25% during startup.
- A 2.0 gpm RCS leak has been detected during the performance of the daily leak rate surveillance.
- It is suspected that RC-1-1 and RC-1-2 are leaking by their seats into the RCDT
- R-11 and R-12 are alarming **on-scale**. *not bold*
- A team is being assembled to enter containment to attempt isolation of the leak (located in A Loop RCP vault)
- *Containment General Area Temp is noted to be 92°F*

Initiating Cues:

- The SM has directed you to prepare for an emergency containment entry per F-2.
- You are to **list** all requirements that must be met prior to containment entry.

Requirements
9.1.2 No Power change while in Cont.
9.2 1 TLD's & instrument
9.2.2 No RC Loop or cavity entry into approach of Sump RPD.
9.2.3 no FLUX map & shield Bld vent is secured.
9.2.4 one door to Shield Bld closed
9.2.5 Pre-Job Brief.
9.2.6 All Persons check in w/ Control Room & ensure dosimetry
9.2.7 Heat stress concerns ICE VESTS & Back up team + Stay times apply
9.2.8 Lock doors after exit
9.2.9 Post Job
9.3.2 B.2 - m34 vitrealite II Required.
9.3.2 6 observe RWP Requirements ^{IE} → Full suit or Rubble suit.

Completed
all changes
made

1/22/02

Changes recommended by
Examiners

SRO of TEST A.3

M order

up
version

~~NEED F-5 APPENDIX A RB~~

Facility: Prairie Island

Task No: _____

Task Title: Recognize and make preparations
for emergency containment entryJob Performance Measure No: A.3K/A Reference: 2.3.10 [2.9/3.3]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance X Actual Performance ____ Classroom X Simulator ____ Plant ____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 1 is operating.
- An alarm on Fire Protection Panel FP121 indicates there is a fire in Zone 20.

Task Standard: Recognize the need for an emergency containment entry and prepare a list of all the requirements for a emergency containment entry with R-11 and R-12 alarming off scale.

Required Materials: F-2, "Radiation Safety," Rev.20.

F5 Appendix A R8

General References: F-2, "Radiation Safety," Rev.20.

*F5 Appendix A R8*Initiating Cues:

- The SM has directed you to list all the requirements that must be met to allow the fire brigade access to the affected zone.

*restrictions and actions*Time Critical Task: YES/NOAlternate Path: YES/NO

Validation Time: _____ Minutes

Time Started _____

Time Finished: _____

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

1 Performance step:

SAT/UNSAT

DETERMINE what is impacted by a fire in Zone (21) — 20

Standard:

Evaluators Note: Candidate may already know that Zone (21) is inside the containment. 20

Review F5 Appendix A to determine that Zone (21) is the Unit 1 containment building.

Comment:

CUE: If asked provide the candidate a copy of F5 Appendix A, Rev.8 20

2 Performance step:

SAT/UNSAT

DETERMINE that an emergency containment entry is necessary for containment access.

Standard:

Candidate finds and reads F-2, "Radiation Safety," Rev.20. Step 9.3.2, "Emergency Entry is defined as non-routine entry for inspection or operation such as a fire alarm..."

Comment:

CUE: If asked provide the candidate a copy of F-2, "Radiation Safety," Rev.20.
If asked inform the candidate that R11 and R12 are alarming **OFF** scale.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

3 Performance step: **CRITICAL STEP**

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2

Specific requirements for containment entry while at hot standby and power are spelled out in these procedures.

✓ **F-2, "Radiation Safety," Rev.20. Step 9.2.1, The entry team SHALL be equipped with dosimeters, TLD's, and a beta-gamma survey instrument.**

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None

4 Performance step: **CRITICAL STEP**

SAT/UNSAT

✓ **F-2, "Radiation Safety," Rev.20. Step 9.2.2, Entry into the RC loops and Reactor Cavity SHALL NOT be permitted without permission from the superintendent of Radiation Protection and Chemistry or his designee.**

no entry
did not list

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

5 Performance step: SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.3, Prior to containment entry, contact the Shift Supervisor to confirm the following:

- A. ~~There is not flux mapping or incore detector movement in progress. Very high radiation dose rates and possible overexposures can be caused by the incore detectors.~~
- B. ~~The Shield building ventilation systems are secured.~~
- C. ~~Both the personnel and the maintenance airlocks are unlocked.~~

* Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

*not in current
rev of procedure
change can sit out
not on air
locks*

6 Performance step: SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.4, If the unit is above cold shutdown, one shield building door at each entry **SHALL** be closed at all times.

Standard:

✓ Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

7 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.5, Before entry, a pre-job briefing **SHALL** be conducted with those entering and Control Room personnel, as appropriate. This pre-job briefing **SHALL** include a discussion of all tour/work locations and anticipated radiation levels (PINGP 1112)

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

8 Performance step:

SAT/UNSAT

of F-2, "Radiation Safety," Rev.20. Step 9.2.6, All personnel entering the containment **SHALL** check in with the Control Room, or the designated person at the airlock, if posted.

die test * When contacting Control Room prior to Containment entry at power, **ensure** all, personnel are wearing a TLD and Electronic Dosimeter (ED) and the ED is turned on (number and mRem indicated with the window).

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

9 Performance step: SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.7, All personnel should use discretion when temperatures are above 85 degrees. The guidelines for heat stress in the NSP PINGP Safety Manual should be reviewed. Backup teams and stay times may be required.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

10 Performance step: SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.8, When all personnel are out of the containment, the personnel and maintenance airlock hatches **SHALL** be locked.

Standard:

on the way.

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)11 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.7, All personnel should use discretion when temperatures are above 85 degrees. The guidelines for heat stress in the NSP PINGP Safety Manual should be reviewed. Backup teams and stay times may be required.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.12 Performance step:

SAT/UNSAT

F-2, "Radiation Safety," Rev.20. Step 9.2.8, When all personnel are out of the containment, the personnel and maintenance airlock hatches **SHALL** be locked.

Standard:

Candidate determines that this requirement applies and documents by listing on the sheet provided.

Comment:

CUE: None.

Duplicate of 9x10

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

13	Performance step: CRITICAL STEP	SAT/UNSAT
----	--	-----------

F-2, "Radiation Safety," Rev.20. Step 9.3.2, B. If R-11 and R-12 of the appropriate Unit are:

1. Not alarming and normal readings, entry may be made without any respiratory protection.
2. Alarming on scale, entry may be made with the use of a MSA Ultralite II.
3. **Alarming off scale, no entry may be made without the Supt. Rad Protection or designee appraisal and approval.**

Standard:

Candidate determines that this requirement (3) applies and documents by listing on the sheet provided.

Comment:

CUE: If asked inform the candidate that R11 and R 12 are alarming **OFF** scale.

Terminating cue: When the candidate determines that all F-2 requirements are listed.

VERIFICATION OF COMPLETION

Job Performance Measure No. _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

Response: _____

Result: SAT or UNSAT

Examiner's signature and date: _____

Initial Conditions:

- Unit 1 is operating.
- An alarm on Fire Protection Panel FP121 indicates there is a fire in Zone 20.

Initiating Cues:REACTOR BLDG.

- The SM has directed you to list all the requirements that must be met to allow the fire brigade access to the affected zone.

F2	Requirements
1	ENTRY TEAM SHALL BE EQUIPPED W/ DOCUMENTS
	TLDs + BETA GAMMA SURVEY INST.
2	NO ENTRY INTO RC LOOPS → RX CAVITY
3.	NO NO FUNK MAP IN PROGRESS
4	SBVS SECURED
5	9.24 ONE DOOR CLOSED IN EACH SHIELD BLDG.
6	HOLD PRE-JOB BRIEF PING 1112
7	CONTACT CONTROL ROOM PRIOR TO ENTRY
8	BACKUP TEAMS + STAY TIMES BASED ON HEAT STRESS
9	1R11 + 1R12 NOT ALARMING OR RAD PROTECTION APPROVAL
10	OBSERVE RWP

KEY

Requirements
1. Stop Power Increase
2. Entry team equipped with TLD's, Dosimeters, and a beta-gamma survey instrument.
3. Need permission of Supt. of Radiation Protection and Chemistry to enter RC loop area
4. Contact SS and verify that no flux mapping or incore detector movement is in progress and that shield building ventilation is secured.
5. If in Mode 1 then one shield building door at each entrance must be closed.
6. Pre-job brief
7. Check in w/control room and verify TLD & ED is on
8. When containment temperatures are above 85° review guidelines in safety manual.
9. MSA Ultralite II required for entry
10. Follow RWP requirements.

Key

conduct
all ~~early~~ classes
w/ed. 7/12/02
Changes recommended by
examiners

REC OP TEST A-1 ③

Not dated
7/17/02

PING 66b
~~Black~~

P87.

Facility: Prairie Island

Task No: _____

Task Title: Emergency NRC Notification Job Performance Measure No: RO A.4K/A Reference: K/A 2.4.12 [3.4/3.9]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance X Actual Performance ____ Classroom ____ Simulator  Plant X**READ TO THE EXAMINEE**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

A General Emergency was declared 33 minutes ago. The NRC Operations Center has not yet been notified.

Task Standard: The candidate must demonstrate that he/she understands the capability to call the NRC operations center on a commercial telephone line.

Required Materials: Copy of PINGP 666, Rev. 17.

General References: F3-4, "Responsibilities During An Alert, Site Area, or General Emergency"

Initiating Cues:

The Unit 2 SS directs you to make an immediate emergency notification phone call to the NRC operations center due to a declaration of a General Emergency 33 minutes ago.

Time Critical Task: YES/NOAlternate Path: YES/NO

Validation Time: _____ Minutes Time Started _____

Time Finished: _____

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

1 Performance step:

SAT/UNSAT

OBTAIN PINGP Form 666.

Standard:

Candidate understands that a prepared form exists and needs to be completed prior to contacting the NRC.

Comment:

CUE: When the candidate asks for a copy of PINGP Form 666 provide a pre-filled out copy.

*Ensure applicant
Does NOT Pick up Red Phone*

2 Performance step: **CRITICAL STEP**

SAT/UNSAT

SIMULATE contacting the NRC Operations Center.

Standard:

Provide the evaluator with one of the commercial numbers for calling the NRC Ops Center from the top of PINGP Form 666 and simulate calling the NRC Ops Center within 27minutes of being assigned this task.

Comment:

Cue: When the candidate picks up the Red Phone inform the candidate that the phone does not work.

Terminating cue: When the candidate provides the commercial number to the evaluator the JPM is complete.

VERIFICATION OF COMPLETION

Job Performance Measure No. _____

Examinee's Name: _____

Examiner's Name: _____

Date performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question Documentation:

Question: _____

Response: _____

Result: SAT or UNSAT

Examiner's signature and date: _____

Initial Conditions:

- A General Emergency was declared 33 minutes ago. The NRC Operations Center has not yet been notified.

Initiating Cues:

The Unit 2 SS directs you to make an immediate emergency notification phone call to the NRC operations center due to a declaration of a General Emergency 33 minutes ago.

Initial Conditions:

- A General Emergency was declared ~~33~~ minutes ago. The NRC Operations Center has not yet been notified.

Initiating Cues:

The Unit 2 SS directs you to make an immediate emergency notification phone call to the NRC operations center due to a declaration of a General Emergency ~~33~~ minutes ago.

FORM 361 (2000)				U.S. NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER			
EVENT NOTIFICATION WORKSHEET							
NRC OPERATION TELEPHONE NUMBER PRIMARY -- 301-816-5100 or 800-532-3469*, BACKUPS -- [1st] 301-951-0550 or 800-449-3694*, [2nd] 301-415-0550 and [3rd] 301-415-0553 * Licensees who maintain their own ETS are provided these telephone numbers							
NOTIFICATION TIME		FACILITY OR ORGANIZATION <i>PRAIRIE ISLAND</i>		UNIT <i>1</i>	NAME OF CALLER		CALL BACK #
EVENT TIME & ZONE		EVENT DATE		POWER/MODE BEFORE <i>100%</i>		POWER/MODE AFTER <i>0%</i>	
EVENT CLASSIFICATIONS				1-Hr. Non-Emergency 10 CFR 50.72(b)(1)			
<input checked="" type="checkbox"/>	GENERAL EMERGENCY	GEN/AAEC		TS Deviation ADEV		(v)(A)	Safe S/D Capability AINA
	SITE AREA EMERGENCY	SIT/AAEC		4-Hr. Non-Emergency 10 CFR 50.72(b)(2)		(v)(B)	RHR Capability AINB
	ALERT	ALE/AAEC		(i)	TS Required S/D ASHU	(v)(C)	Control of Rad Release AINC
	UNUSUAL EVENT	UNU/AAEC		(iv)(A)	ECCS Discharge to RCS ACCS	(v)(D)	Accident Mitigation AIND
	50.72 NON-EMERGENCY (see next column)			(iv)(B)	RPS Actuation (scram) ARPS	(xii)	Offsite Medical AMED
	PHYSICAL SECURITY (73.71)	DDDD		(xi)	Offsite Notification APRE	(xiii)	Loss Comm/Asmt/Resp ACCM
	MATERIAL/EXPOSURE	B???		8-Hr. Non-Emergency 10 CFR 50.72(b)(3)		60-Day Optional 10 CFR 50.73(a)(1)	
	FITNESS FOR DUTY	HFIT		(ii)(A)	Degraded Condition ADEG	Invalid Specified System Actuation AINV	
	OTHER UNSPECIFIED REOMT (see last column)			(ii)(B)	Unanalyzed Condition AUNA	Other Unspecified Requirement (Identify)	
	INFORMATION ONLY	NNF		(iv)(A)	Specified System Actuation AESF	NONR	
DESCRIPTION							
Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc.							
<i>LOCA with Release in Progress</i>							
NOTIFICATIONS				ANYTHING UNUSUAL OR NOT UNDERSTOOD?			
NRC RESIDENT				<input type="checkbox"/> YES (Explain above) <input type="checkbox"/> NO			
STATE(s)				DID ALL SYSTEMS FUNCTION AS REQUIRED			
LOCAL				<input type="checkbox"/> YES <input type="checkbox"/> NO (Explain above)			
R GOV AGENCIES				MODE OF OPERATION UNTIL CORRECTED		ESTIMATED RESTART DATE	
PRESS RELEASE						ADDITIONAL INFO ON BACK	
						<input type="checkbox"/> YES <input type="checkbox"/> NO	

ADDITIONAL INFORMATION

LOGICAL RELEASES CHECK OR FILL IN APPLICABLE ITEMS (Specific details/explanations should be covered in event description)						
LIQUID RELEASE	GASEOUS RELEASE	UNPLANNED RELEASE	PLANNED RELEASE	ONGOING	TERMINATED	
MONITORED	UNMONITORED	OFFSITE RELEASE	T S EXCEEDED	RM ALARMS	AREAS EVACUATED	
PERSONNEL EXPOSED OR CONTAMINATED		OFFSITE PROTECTIVE ACTIONS RECOMMENDED		* State release path in description		

	Release Rate (Ci/sec)	% T S LIMIT	HOO GUIDE	Total Activity (Ci)	% T S LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 µCi/sec			0.01 Ci
Particulate			1 µCi/sec			1 mCi
Liquid (excluding tritium & dissolved noble gases)			10 µCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						

	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER
RAD MONITOR READINGS					
ALARM SETPOINTS					
% T S LIMIT (if applicable)					

RCS OR SG TUBE LEAKS CHECK OR FILL IN APPLICABLE ITEMS (Specific details/explanations should be covered in event description)			
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc.)			
LEAK RATE	UNITS gpm/gpd	T S LIMITS	SUDDEN OR LONG TERM DEVELOPMENT
LEAK START DATE	TIME	COOLANT ACTIVITY AND UNITS	PRIMARY SECONDARY

OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL

NOTE: PLANT INFORMATION ONLY

Event Number _____

NRC Contact Person: _____

Telecopy to NRC Operations Center, White Flint (301-816-5151): _____ (initial)

Telecopy to Xcel Asset Manager (612-330-6938): _____ (initial)

Telecopy to Xcel Communications (612-215-4522): _____ (initial)

Telecopy to Xcel Regulatory Administration Manager (612-330-7601): _____ (initial)

Telecopy to NMC Regulatory Services (715-377-3355): _____ (initial)

Notify NMC Regulatory Services that form was faxed (715-377-3379): _____ (initial)

Copy Given to Operations SS or SM: _____ (initial)

Copy Given to Site Communications: _____ (initials)

Copy Given to NRC Resident Inspector: _____ (initial)

Copy Sent to Gen. Supt. Operations: _____ (initial)

y Given to Rad. Prot. Emerg. Planner: _____ (initial)

Original Given to Site Licensing: _____ (Initial) _____ (Date)

Facility: Prairie Island

Task No: _____

Task Title: Classify an Event, Initiate
Protective Action Recommendations,
and Complete Emergency Notification
Report Form PINGP 577Job Performance Measure No: SRO A.4K/A Reference: 2.4.38 [4.0]

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of testing:Simulated Performance X Actual Performance ____ Classroom X Simulator ____ Plant ____**READ TO THE EXAMINEE**

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 1 has had an automatic Reactor Trip and Safety Injection from 100% power
- 1E-0, "Reactor Trip or Safety Injection" is in effect at step 8
- Unit 1 plant conditions are as follow:
 - Offsite power has been lost to Unit 1
 - RCS pressure is at 1100 psig and slowly decreasing
 - Core exit TCs are at 750°F and slowly increasing
 - Containment pressure is at 10 psig and slowly decreasing
 - No SI pumps are available
 - All three (3) Charging Pumps are running with charging flow at 120 gpm
 - RVLIS full range level is at 35% and decreasing
 - A and B SG pressures are at 900 psig and stable
 - The containment in-service purge system was in operation prior to the Reactor Trip and Safety Injection
 - Containment in-service purge exhaust valves CV-31310 and CV-31311 do NOT indicate full closed by their status lights
- Unit 2 is at 100% power with all equipment in normal lineup

- Task Standard:
- CLASSIFY the event as a GENERAL EMERGENCY
 - PROVIDE correct Protective Action Recommendations (PARs)
 - DOCUMENT the classification and PARs on the Emergency Notification Report Form (PINGP 577)

Facility: Prairie Island

Task No: _____

Task Title: Classify an Event, Initiate
Protective Action Recommendations,
and Complete Emergency Notification
Report Form PINGP 577Job Performance Measure No: SRO A.4K/A Reference: 2.4.38 [4.0]

Required Materials:

1. F3-2, "Classifications of Emergencies", Rev 28
2. PINGP 577, "Emergency Notification Report Form", Rev ~~28~~ ³⁰
3. F3-8.1, "Recommendations for Offsite Protective Actions for the On Shift Emergency Director / Shift Manager", Rev 12
4. F3-13.5, "Alternate Meteorological Data", Rev 4W
5. PINGP 1125, "Control Room Shift Manager / Shift Supervisor Emergency Director Checklist", Rev 13

To reflect latest revision of form

General References:

1. F3-2, "Classifications of Emergencies", Rev 28
2. PINGP 577, "Emergency Notification Report Form", Rev ~~28~~ ³⁰
3. F3-8.1, "Recommendations for Offsite Protective Actions for the On Shift Emergency Director / Shift Manager", Rev 12
4. F3-13.5, "Alternate Meteorological Data", Rev 4W
5. PINGP 1125, "Control Room Shift Manager / Shift Supervisor Emergency Director Checklist", Rev 13
6. F-0.4, "Core Cooling", Rev 4

Initiating Cues:

The Unit 1 Shift Supervisor has asked you, as the unaffected Unit 2 Shift Supervisor, to:

- CLASSIFY the event per F3-2, and
- COMPLETE PINGP 577, "Emergency Notification Report Form", which has been partially filled out.

This is a Time Critical Task. The Shift Emergency Communicator (SEC) has obtained the Meteorological Data and it has been placed on the partially filled out PINGP 577 form.

Time Critical Task: YES/NOAlternate Path: YES/NO

(15 minutes to classify event)

(15 minutes to complete PINGP 577 after classification is complete)

additional

Validation Time: _____ Minutes

Time Started _____

Time Finished: _____

- NOTIFY the Unit 1 Shift Supervisor (evaluator) at the time you declare the Event Classification, and

add to ensure that the time it takes to classify the event is obtained

Concur. Changes incorporated (enhancements).
N Valdez

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)

1 Performance step: **CRITICAL STEP** SAT/UNSAT

DETERMINE the Emergency Classification Level and Emergency Action Level (EAL) per F3-2, "Classifications of Emergencies", Attachment 1 based on the Initial Conditions specified.

Standard:

DETERMINES the Emergency Classification Level to be a **GENERAL EMERGENCY** and the Emergency Action Level to be EAL Reference Manual Condition Number 6 based on the Initial Conditions specified.

NOTE: This is a Time Critical Task (15 minutes to classify event).

Comment:

2 Performance step: **CRITICAL STEP** SAT/UNSAT

DETERMINE Protective Action Recommendations per ^{PINGP 577,} PINGP 1125 or F3-8.1, Figure 1

Standard:

DETERMINE Protective Action Recommendations per ^{PINGP 577,} PINGP 1125 or F3-8.1, Figure 1 to be:

- **EVACUATE** all sectors out to 2 miles, and ^{MNPQR}
- **EVACUATE** the 5 downwind sectors out to 5 miles, and
- **ADVISE** remainder of plume EPZ to monitor radio / TV broadcasts for further emergency information

Comment:

CIRCLE SUBAREAS "5W" and "5N" in addition to SUBAREA "2" that is already circled on the form.

Corr. Changes incorporated.
N. Valdez

PERFORMANCE INFORMATION

(Denote critical steps with **BOLD**)3 Performance step: **CRITICAL STEP**

SAT/UNSAT

DOCUMENT the classification and PARs on the Emergency Notification Report Form (PINGP 577).

Standard:

DOCUMENT the classification and PARs on the Emergency Notification Report Form (PINGP 577) per the following:

- **Section 1.2 - We have "(a) Declared" a "(4) General Emergency"**
 - *At Time hours on Date*
- **Section 1.3 - The emergency "(b) DOES involve an airborne radioactive release**
- **Section 1.4 - The protective action recommendation at this time is:**

Changes to reflect
sectors, subareas for
conditions specified
on form PINGP 577
Meteorological Data.

- (a) Evacuate ALL sectors out to 2 miles, *M, N, P, Q, R*
Evacuate the 5 downwind sectors "~~N, P, Q, R, A~~" out to 5 miles
- CIRCLE SUBAREAS "~~5N, 5E, 5S~~, and 5W" in addition to
SUBAREA "2" that is already circled on the form
- Advise remainder of plume EPZ to monitor radio / TV broadcasts
for further emergency information

Section 2.1 - The EAL Reference Manual Condition Number is 6*Section 2.2 - Affected sectors M, N, P, Q, R**Comment: Section 2.3 - Sign approval of form*

add to reflect
other items
filled out on
form.

Terminating cue:

Concur. Changes incorporated.
M. Vala

VERIFICATION OF COMPLETION

Job Performance Measure No. _____

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question: _____

_____Response: _____

Result: SAT or UNSAT

Examiner's signature and date: _____

Initial Conditions:

- Unit 1 has had an automatic Reactor Trip and Safety Injection from 100% power
- 1E-0, "Reactor Trip or Safety Injection" is in effect at step 8
- Unit 1 plant conditions are as follow:
 - Offsite power has been lost to Unit 1
 - RCS pressure is at 1100 psig and slowly decreasing
 - Core exit TCs are at 750°F and slowly increasing
 - Containment pressure is at 10 psig and slowly decreasing
 - No SI pumps are available
 - All three (3) Charging Pumps are running with charging flow at 120 gpm
 - RVLIS full range level is at 35% and decreasing
 - A and B SG pressures are at 900 psig and stable
 - The containment in-service purge system was in operation prior to the Reactor Trip and Safety Injection
 - Containment in-service purge exhaust valves CV-31310 and CV-31311 do NOT indicate full closed by their status lights
- Unit 2 is at 100% power with all equipment in normal lineup

*Concur. Changes incorporated (enhancements).
Nikola*

Initiating Cues:

The Unit 1 Shift Supervisor has asked you, as the unaffected Unit 2 Shift Supervisor, to:

- CLASSIFY the event per F3-2, and
- COMPLETE PINGP 577, "Emergency Notification Report Form", which has been partially filled out.

The Shift Emergency Communicator (SEC) has obtained the Meteorological Data and it has been placed on the partially filled out PINGP 577 form

This is a Time Critical Task.

NOTIFY the Unit 1 Shift Supervisor (evictor) at the time you declare the Event Classification, and